

ICHTHYOLOGICAL MISCELLANEA.

BY GILBERT P. WHITLEY, ICHTHYOLOGIST, THE AUSTRALIAN MUSEUM, SYDNEY.*

(Plate I.)

THE Director of the Queensland Museum has kindly submitted for determination an interesting collection of fishes from that institution. With the exception of a fine specimen of *Chaetodon* (*Citharædus*) *meyeri* (Bloch & Schneider) from Kaewiang, New Ireland, and a *Triorus reipublicæ* (Ogilby) labelled Papua, all the specimens came from Queensland, and a selection from them forms the basis of this paper. Some nomenclatorial notes which more or less directly concern Queensland fishes are also included and a few allied Western Australian forms have been compared with the eastern species. Fishes from Low Isles, North Queensland, will be dealt with in a forthcoming report on the fishes collected there in association with the British Great Barrier Reef Expedition, and it is hoped that the taxonomic notes in the present paper will help to lighten the burden of synonymy in the Low Isles report. Some of these notes may seem to be rather brief, but are nevertheless the result of close study of specimens and literature and may be amplified in future; it is necessary to introduce them in their present form to provide for various hitherto unrecognised items "a local habitation and a name."

The work on the ichthyology of Queensland performed during the last five years may be here reviewed, so that those who desire to keep the list of Queensland fishes up to date may have the means at their disposal. A list of the fishes recorded from Queensland waters was provided in the eighth volume of these Memoirs in 1925, and a bibliography containing 174 references was appended thereto. This list was mainly concerned with the period from about 1860, when Günther's Catalogue was being produced, to modern times, so that it is probable that an analysis of literature anterior to the Güntherian period would bring to light interesting early records of Queensland fishes. The fish-fauna of this State is so rich and varied that additional species, both endemic and extralimital, will doubtless be recorded from its waters for many years to come, and much careful research will have to be undertaken before any sort of coup-d'œil of its fauna can be obtained. The troublesome *nomina nuda* of Saville-Kent will have to be disposed of with care, preferably by being relegated to the synonymy of known Queensland species, and the types of the less known species of De Vis, Castellan, and others must be re-described and figured before much original work can safely be performed.

* By permission of the Trustees of the Australian Museum.

The late A. R. McCulloch's Check-List of the fishes recorded from Australia, recently issued as a Memoir of the Australian Museum, embraces the Queensland fish-fauna and serves as an up-to-date basic catalogue. Several expeditions and groups of private individuals have made extensive collections in Queensland, notably on the Great Barrier Reef, in the last five years, and reports on them by various authors have appeared in the Memoirs of the Queensland Museum and the Records of the Australian Museum. An account of the fishes of the Capricorn Group was given in the fourth volume of the Australian Zoologist. In 1926, two parts of the Biological Results of the Fishing Experiments carried on by the F.I.S. "Endeavour" were published, a number of Queensland fishes being dealt with in them. Amongst the smaller contributions to Queensland ichthyology should be mentioned the description, by Nichols & Raven,¹ of a new *Rhadinocentrus* from the Babinda district and the renaming of an *Aseraggodes* by Chabanaud.² In Australia, Hamlyn-Harris³ has discussed the efficacy of mosquito-controlling fishes in Queensland, and Baneroff⁴ has continued his valuable observations on the Lungfish. In addition to these technical accounts, popular articles have appeared in the Australian Museum Magazine, wherein *Himantura granulata* (Macleay) was recorded from Queensland. Passing references to fishes from Queensland are made in the excellent work on the ichthyology of the Philippines and Oceania being done by Fowler⁵ and his associates, and also in the latest volume of Weber & Beaufort's Fishes of the Indo-Australian Archipelago. Several Queensland Chaetodontidæ are included in Ahl's monograph⁶ of that family, and the Rhinobatidæ have been revised by Norman.⁷

Family ATHERINIDÆ.

Pranesus ogilbyi gen. et sp. nov.

Eye very large. Head with scales above and on cheeks. Rami of mandibles not elevated posteriorly. Premaxillaries slender, not dilated posteriorly, and without a notch along their sides. Premaxillary processes short, their length less than half diameter of eye. Fine teeth on jaws and vomer. Gill-rakers slender and numerous. Body moderately robust, completely scaly. Anus situated between adpressed ventral fins. Dorsal fins widely separated. One anal spine. Caudal forked..

This new genus is practically identical with *Hepsetia* as defined by Jordan & Hubbs,⁸ but their conception of *Hepsetia* Bonaparte⁹ does not appear

¹ Nichols & Raven, American Museum Novitates 296, Feb. 1, 1928, pp. 1-2, fig. 1.

² Chabanaud, Ann. Mag. Nat. Hist. (10) v, Feb. 1, 1930, pp. 241-243.

³ Hamlyn-Harris, Proc. Roy. Soc. Qld. xli, 3, July 26, 1929, pp. 23-38, pls. i-viii.

⁴ Baneroff, Proc. Linn. Soc. N. S. Wales liii, 3, July 16, 1928, pp. 315-317.

⁵ Fowler, Mem. Bern. Bish. Mus. x, 1928; Fowler & Bean, Bull. U. S. Nat. Mus. 100, 1929.

⁶ Ahl, Archiv. Naturg. lxxxix, A, 5, May 1923, pp. 1-205, pls. i-ii.

⁷ Norman, Proc. Zool. Soc. London, 1926, pp. 941-982.

⁸ Jordan & Hubbs, Stud. Ichth., Monogr. Atherin. 1919, pp. 14, 31.

⁹ Bonaparte, Leon. Faun. Ital. iii, *Atherina hepsetus*, c. 1836, p. 2 (*file* Sherborn).

to be accurate. Sherborn, in his Index Animalium, considers *Hepsetia* Bonaparte as a possible error for *Hepsetus* Swainson.¹⁰ The latter genus has been overlooked by most ichthyologists and is apparently based on *Hydrocyon hepsetus* Cuvier, which is not an atherine, so that Swainson's name may be dismissed from further consideration here. Jordan & Hubbs regarded *Atherina boyeri* Risso¹¹ as the genotype of *Hepsetia* Bonaparte, but Sherborn's citation of the original reference, which is not accessible to me, strongly suggests that *Atherina hepsetus* Linné is the tautotype, in which case *Hepsetia* becomes an absolute synonym of *Atherina* Linné.

Under these circumstances, I consider it necessary to provide the new name *Pranesus ogilbyi* for the Australian atherine hitherto known as *Atherina pinguis* or *Hepsetia pinguis* Lacépède. Ogilby¹² suggested that the Queensland form might be distinct from the typical Mauritius species, so I propose the specific name in honour of that accomplished ichthyologist. The type of the species is the Moreton Bay specimen in the Queensland Museum figured in his paper.

Family APOGONIDÆ.

Genus LOVAMIA nov.

Orthotype, *Mullus fuscatus* White.¹³

Preopercle serrated on vertical limb and angle. Orbit entire. Jaws without distinct canine teeth. Small teeth in jaws and on vomer and palatines; none on tongue. A flat opercular spine. Maxillary not reaching vertical of hinder margin of eye.

Scales large, ciliated, in about 25 transverse series on body and in two rows between the complete lateral line and the back. Depth about one-third standard length and not much less than length of head. Body with dark longitudinal bands. No subcutaneous peritoneal tube above anal fin.

Seven smooth, pungent spines in anterior dorsal fin, which is separated from the posterior dorsal. Vent not far in advance of anal fin, which is short, with two spines and eight or nine rays. Caudal bilobed, without pungent spines.

The species accommodated by the genus *Lovamia* have been dealt with by Radcliffe¹⁴ and by McCulloch.¹⁵ A useful key to some genera of Apogonidæ has been compiled by Jordan & Jordan.¹⁶ *Apogon endekatenia* Bleeker¹⁷ is a species of *Lovamia*.

¹⁰ Swainson, Nat. Hist. Classif. Fish. Amphib. Rept. i, Oct. 1838, p. 259.

¹¹ Risso, Ichth. Nice 1810, p. 338, Mediterranean Sea.

¹² Ogilby, Mem. Qld. Mus. i, 1912, pp. 37-38, pl. xii, fig. 1, and text-fig. a.

¹³ White, Voy. N. S. Wales, 1790, p. 268 and plate. Ex Shaw MS., Port Jackson, N.S.W.

¹⁴ Radcliffe, Proc. U. S. Nat. Mus. xli, 1911, pp. 245-261, pls. xx-xxv.

¹⁵ McCulloch, Biol. Res. Endeavour iii, 3, 1915, pp. 115-120.

¹⁶ Jordan & Jordan, Mem. Carnegie Mus. x, 1, 1922, pp. 43-44.

¹⁷ Bleeker, Nat. Tijdschr. Ned. Ind. iii, 1852, p. 449.

Lovamia is related to *Apogon* Lacépède,¹⁸ but may be distinguished by the larger scales, more denticulate preoperculum, dark longitudinal bands on body, shorter maxillary and bands of teeth in jaws. *Macrolepis* Rafinesque¹⁹ and *Aplogon* Agassiz²⁰ are regarded as synonyms of *Apogon* Lacépède.

Amia was the generic name given by Gronow²¹ to a fish from the East Indies. Gronow's work is non-binomial so his generic name is not available for use. Gray²² later revived Gronow's name in a binomial form and he named the East Indian species *Amia percaformis* from Gronow's manuscripts. But *Amia* Gray is preoccupied by *Amia* Linné, 1766, a different genus of fishes, and by *Amia* Gistel, 1848, a genus of Coleoptera. The type-species, *Amia percaformis* Gray, is a synonym of *Apogon moluccensis* Valenciennes²³ according to Bleeker,²⁴ but as that species has maxillary reaching vertical of hinder margin of eye, weaker dorsal spines, and no longitudinal bands on body, it also may be easily distinguished from *Lovamia*. Meuschen²⁵ gave the binomial name *Amia calva* to Gronow's non-binomial genus and species, but his identification was incorrect, as *Amia calva* Linné²⁶ is the American Bowfin, an entirely different fish. The best course to pursue under these circumstances is to use the generic name *Gronovichthys* for the unstriped Indo-Pacific species of "*Amia*."

Genus GRONOVICHTHYS Whitley, 1929.

Gronovichthys Whitley, Rec. Austr. Mus. xvii, 6, Nov. 28, 1929, p. 302, footnote.

Orthotype, *Amia percaformis* Gray.

Similar to *Lovamia*, but with the maxillary reaching vertical of hinder margin of eye; no longitudinal bands on body; dorsal spines weak.

Gronovichthys replaces *Amia* Gronow, 1763, non-binomial = *Amia* Meuschen, 1781 and Gray, 1854, preoccupied by *Amia* Linné, 1766 (*vide supra*).

Genus VINCENTIA Castelnau, 1872.

Another genus of fishes which claims attention here is *Vincentia* Castelnau.²⁷ The haplotype is the South Australian *V. waterhousii* Castelnau, which is a

¹⁸ Lacépède, Hist. Nat. Poiss. iii, 1802, p. 411. Haplotype, *A. ruber* Lacépède = *Mullus imberbis* Linné. Bibron (Dict. pittoresq. hist. nat. i, 1833, p. 237) remarked "C'est fort mal a propos que Lacépède a considéré le poisson qu'il a pris pour type de ce genre, le Mulle imberbe (*Mullus imberbis*) d'Artesi et de Linné."

¹⁹ Rafinesque, Analyse Nat. 1815, p. 86. *Nomen nudum*.

²⁰ Agassiz, Nomencl. Zool., 1846, Index. Univ.

²¹ Gronow, Zoophylac. Gronovianum, 1763, pp. II and 80, No. 273, pl. ix, fig. 2.

²² Gray, Cat. Fish coll. Gronow Brit. Mus., 1854, p. 173.

²³ Valenciennes, Nouv. Arch. Mus. Hist. Nat., Paris, 1832, p. 54.

²⁴ Bleeker, Atlas Ichth. vii, 1876, p. 93, pl. cccxxvii, fig. 1, as *A. monochrous*.

²⁵ Meuschen, Index Zoophylac. Gronov. 1781, No. 273; Whitley, Rec. Austr. Mus. xvii, 1929, p. 302.

²⁶ Linné, Syst. Nat., ed. 12, 1766, p. 500.

²⁷ Castelnau, Proc. Zool. Acclim. Soc. Vict. i, July 15, 1872, p. 245, St. Vincent's Gulf.

synonym of *Apogon conspersus* Klunzinger²⁸ which was described earlier (*vide* Zoological Record). *Vincentia* may be distinguished from *Lovamia* and *Gronovichthys* by its united dorsals and much greater depth of body, the depth being greater than length of head or about one-third total length.

Genus YARICA nov.

Orthotype, *Apogon hyalosoma* Bleeker, var. *torresiensis* Castelnau.

Preoperculum weakly serrated. Orbit entire. Jaws without canine teeth. Small teeth on jaws, vomer, and palatines; none on tongue. Profile concave over eyes. Maxillary reaching to below hinder half of eye. Scales large, ciliated, in less than thirty transverse series on body and in two rows between the complete lateral line and the back. Depth about one-third total length. Six smooth strong spines in first dorsal, which is separate from the second. Vent not far in advance of anal fin which has two spines and eight rays. Caudal bilobed with somewhat pungent upper and lower spines.

Yarica hyalosoma torresiensis (Castelnau).

Apogon hyalosoma Bleeker, Nat. Tijdschr. Ned. Ind. iii, 1852, p. 63; *et ibid.* v, 1853, p. 329. Amboina, Batavia, Sumbawa, and Sumatra.

Amia hyalosoma Bleeker, Atlas Ichth. vii, 1873, p. 96, pl. cccix, fig. 1. *Id.* Weber & Beaufort, Fish. Indo-Austr. Archip. v, 1929, pp. 283 and 341.

Apogon torresiensis Castelnau, Offic. Rec. Philad. Exhib., Melbourne, 1875, Intercolonial Exhibition Essays ii, p. 9. Cape York, Queensland.

One (*I. 4576*) from Townsville, North Queensland. Presented by F. H. Taylor. The range of Bleeker's species may be extended to include Queensland. *Apogon torresiensis* Castelnau is apparently conspecific but may be regarded as a variety for the present, as the Queensland form appears to have a narrower preorbital than that shown in Bleeker's figure and other differences may be found when comparison of series of specimens can be made.

Genus PRISTIPOGON Klunzinger, 1870.

Pristiapogon Klunzinger, Verh. Zool.-Bot. Ges., Wien, xx, 1870, p. 715. Haplotype, *Apogon frænatus* Valenciennes.

Preopercle distinctly serrated on both limbs. Jaws without distinct canine teeth. Seven dorsal spines.

Pristiapogon frænatus (Valenciennes).

Apogon frænatus Valenciennes, Nouv. Ann. Mus. Hist. Nat., Paris, i, May 1, 1832, p. 57, pl. iv, fig. 4. New Guinea and Guam.

Three specimens (Austr. Mus. Regd. Nos. *IA. 3987-3989*) from Rat Island, Port Curtis, Queensland, were collected by Messrs. Melbourne Ward and William Boardman.

This species has not hitherto been recorded from Australia.

²⁸ Klunzinger, Arch. Naturges., xxxvii, 1, early 1872, p. 18, Hobson's Bay ?

Family LUTJANIDÆ.

Lutjanus erythropterus annularis (Cuvier & Valenciennes).

- ? *Lutjanus erythropterus* Bloch, Nat. aush. Fische iv, 1790, p. 115, pl. cexlix. "Japan."
 ? *Mesoprion rubellus* Cuvier & Valenciennes, Hist. Nat. Poiss. ii, Oct. 1828, p. 475. Pondicherry.
Mesoprion annularis Cuvier & Valenciennes, Hist. Nat. Poiss. ii, Oct. 1828, p. 484. Java.
 ? *Mesoprion chirtah* Cuvier & Valenciennes, Hist. Nat. Poiss. ii, Oct. 1828, p. 488. Based on "Chirtah" Russell, Fish. Vizag., 1803, pl. xciii. Vizagapatam.
DiaCOPE metallicus Bleeker, Nat. Gen. Arch. Nedl. Ind. ii, 1845, Topogr. Batav. p. 524. *Ex* Kuhl & Van Hasselt MS. Java (*file* Weber & Beaufort, 1911).
Lutjanus erythropterus Day, Fish. India, 1875, p. 32, pl. x, figs. 1-2. *Id.* Jordan & Thompson, Proc. U. S. Nat. Mus. xxxix, 1911, p. 453. *Id.* McCulloch, Biol. Res. Endeavour iii, 1915, p. 141 (Queensland). *Id.* Paradise & Whitley, Mem. Qld. Mus. ix, 1927, p. 85 (Pellew Group, Gulf of Carpentaria).

One specimen (*J. 4671*) with D. xi/15; A. iii/10; P. 16; Se. 48, six rows of scales on notched preoperculum and more than ten oblique rows of scales above lateral line. It was labelled as *Lutjanus* sp., from "Bribie Island, Moreton Bay, Queensland. Pres. J. Freese. Colours in life:—Bright rosy red, with numerous oblique golden lines." It also has a dark blotch on upper half of caudal peduncle, preceded by a contrasted light blotch, but no dark band from eye to dorsal is distinguishable.

From Bloch's figure of a slender fish with red fins and less than ten rows of scales over a fairly straight lateral line, one would not identify this specimen as *Lutjanus erythropterus*, but as Day saw Bloch's type, and bearing in mind the remarks of Jordan & Thompson on this species, I feel obliged to use Bloch's name for the species. The name *Mesoprion annularis* applies best to the Queensland form; it was proposed by Cuvier and Valenciennes for a Javanese fish collected by Kuhl and Van Hasselt, whose manuscript name, introduced by Bleeker, is a synonym.

The Queensland specimen resembles *Lutjanus dodecakanthoides* Bleeker²⁹ but has more oblique lines on body and the blotches on the tail, and agrees better with Bleeker's figure³⁰ of *L. chirtah*, which is said to be a synonym of *L. erythropterus*. The "Chirtah" of Russell has very dark edges to fins. This form is near *L. malabaricus* (Bloch & Schneider), from which the Queensland specimen is distinguished by having more fin-rays, more oblique rows of scales above lateral line, and a bald area around scales on temples.

Subfamily PARADICICHTHYINÆ nov.

Paradicichthys venenatus gen. et sp. nov.

(Plate I, fig. 1.)

"Chinaman Fish" Paradise, Medical Journ. Austr. ii, 25, 1924, p. 650, fig. 1. Great Barrier Reef, Queensland. *Id.* Paradise, Quart. Rev. Health Inspect. Assoc. Austr. iv, 3, July 1926, p. 44, pl. i, fig. 5.

²⁹ Bleeker, Atlas Ichth. vii, 1872, pl. ccxvi, fig. 2.

³⁰ Bleeker, Atlas Ichth. vii, 1872, pl. ccc, fig. 1.

The following is a preliminary diagnosis of a new Lutjanoid fish from North Queensland popularly known as the Chinaman Fish. It is hoped that an extended description will be published later with an account of the skull which has been prepared by Dr. H. L. Kesteven. The holotype is a large specimen (*IA. 1554*) from Townsville in the Australian Museum, and casts of it are also exhibited in the Queensland Museum and in the Townsville Institute of Tropical Medicine. Dr. Kesteven states (in MS.) that "The skulls of *Paradicichthys* and *Etelis* differ from the Lutjanoid skull in the peculiar shape of the basioccipital bone, and in the form of the prefrontal bone and the aerartete condition of the maxilla. This last feature is, perhaps, the most important difference and alone would justify the segregation of these and other forms with similar skulls from the Lutjanidæ." *Paradicichthys* is, however, nearer the Lutjanidæ than the Sparidæ, from which it differs mainly in having a small patch of teeth on each palatine. It also has a subocular shelf and the premaxillary separate from the maxillary.

D. x/16; A. iii/9; P. i/15; V. i/5; C. 15. L. lat. 56. L. tr. 9/1/21.

General bodily form of *Lutjanus* but with upper profile of head more convex. An oblique groove before eye to below nostrils. Cheeks and opercles scaly. Preoperculum entire, without notch. Greater part of nape, preopercular border, preorbital, and the broad, convex interorbital area naked. Premaxillary separate from maxillary which almost reaches vertical of anterior margin of eye; no supplemental bone. A single exterior series of strong, blunt, canine teeth in each jaw, behind which are bands of smaller blunt conical teeth. Outer canines enlarged anteriorly. A small patch of small tubercular teeth on each palatine; vomer toothless.

Body covered with cycloid scales which lie parallel with the dorsal profile above the lateral line and do not extend over the dorsal or anal fins. Spinous dorsal much lower than soft. Anal base short, the spines small. Pectorals and ventrals long and pointed. Caudal strongly emarginate. Vent somewhat in advance of anal fin.

General colour rosy or pinkish with darker and lighter zones arranged transversely and longitudinally. After death, the colour is more uniformly pinkish with some irregular violet spots on the body.

The flesh of this fish is sometimes poisonous as food. Dr. P. S. Clarke, of Cairns, North Queensland, has treated many cases of Chinaman Fish poisoning and has kindly supplied me with some interesting notes. He states that this fish is generally found at a depth of about 60 feet and grows to a weight of about 16 lb. Dr. Paradise noted that a weight of 9 kilograms or 20 lb. is attained. Length nearly 3 ft.

Specimens are in the Australian Museum from Townsville (Dr. Cilento; *IA. 1554*, holotype) and from between 17° S. and 19° S. Lat. on the Great Barrier Reef (Dr. Paradise; *IA. 2073-2074*); one of the latter, was illustrated in Paradise's reports.

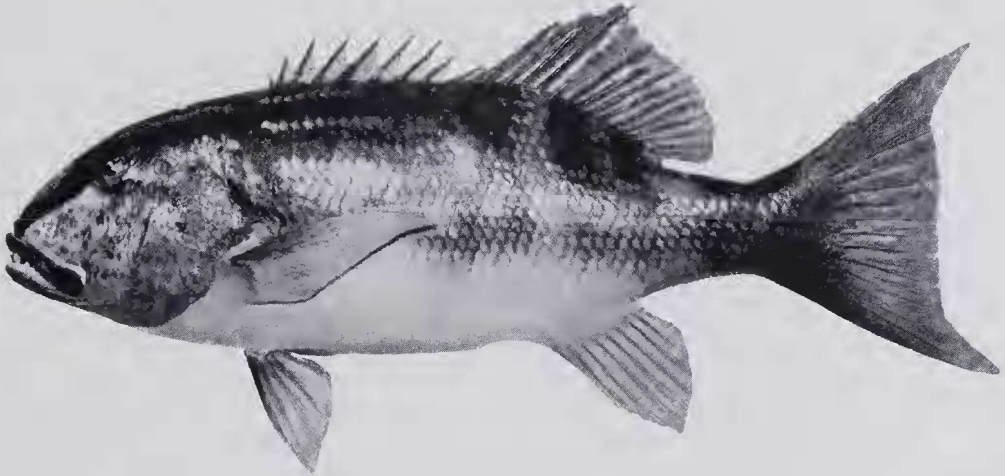


Figure 1.—*Paradicichthys venenatus* Whitley. Cast of holotype (plastotype) in Australian Museum. Original from Townsville, Queensland. Austr. Mus. Regd. No. *IA. 1551*. G. C. Clutton, photo.

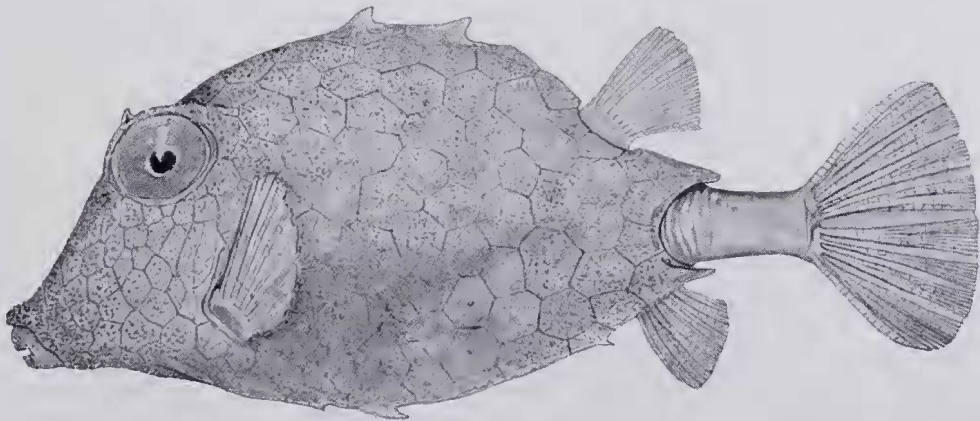


Figure 2.—*Triorus reipublicæ* (Ogilby). Lectotype of *Lactophrys reipublicæ* Ogilby. Moreton Bay, Queensland. Qld. Mus. Regd. No. *I. 1064* G. P. Whitley, del.

Family GERRIDÆ.

Gerres splendens De Vis.

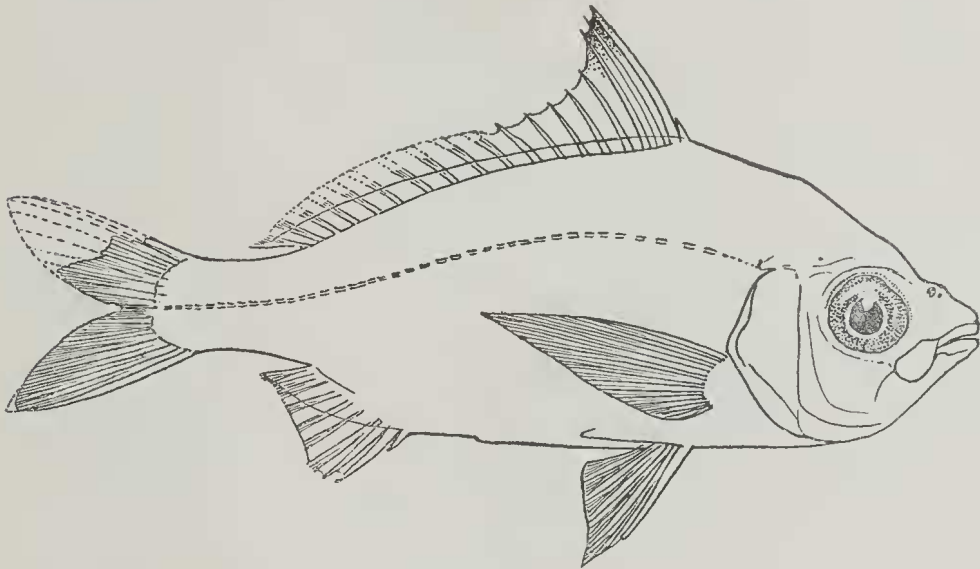
(Text-fig. 1.)

Gerres splendens De Vis, Proc. Linn. Soc. N. S. Wales ix, 2, Aug. 19, 1884, p. 400. Cardwell, Queensland. Holotype in Queensland Museum. *Id.* Saville-Kent, Great Barrier Reef, 1893, p. 369 (listed only).

Gerres ? splendens McCulloch & Whitley, Mem. Qld. Mus. viii, 1925, p. 156 (listed only).

RE-DESCRIPTION OF THE HOLOTYPE OF **Gerres splendens** De Vis.

D. ix/10; A. iii/7; V. i/5; P. 16; C. 15 or 16. L. lat. circa 43. L. tr. 4/11/0.



TEXT-FIGURE 1.

Gerres splendens De Vis. Holotype from Cardwell, Queensland. Qld. Mus. Reg. No. I. 94. G. P. Whitley, *del.*

Head (48 mm.) 3.1, depth (57) 2.6 in length to hypural (151). Eye (16) 3.0, snout (13) 3.7, interorbital (15) 3.2 in head. Pectoral 46 mm., second dorsal spine 30, ventral spine 22, second anal spine 15, and depth of caudal peduncle 17.

Profile rather gibbous over nape. Maxillary reaching to below anterior third of eye. Bands of fine teeth in jaws. All opercles entire. Three rows of scales on cheeks; area behind maxillary groove scaled. Seven gill-rakers on lower limb of first gill-arch.

Body covered with large cycloid scales in about 37 transverse series between head and hypural joint and in 4 longitudinal series above lateral line, some of the tubes of which are tilted upward posteriorly.

Dorsal and anal with dense scaly sheaths. Long axillary scales to ventrals. Pectorals pointed, reaching level of vent. Caudal forked, but damaged.

Colour evidently silvery with black area at tip of first dorsal. Eye dark bluish with bronze crescent on upper half of iris.

Described and figured from the holotype of *Gerres splendens* De Vis, kindly loaned to me for the purpose by Mr. H. A. Longman, to whom my thanks are hereby tendered. This specimen is 151 mm. long from snout to hypural joint or about $7\frac{1}{2}$ in. in total length. Queensland Museum Registered No. I. 11/94. Collected by Kendall Broadbent at Cardwell, North Queensland.

Variation and Affinities.—I have collected a series of young specimens of this species amongst mangroves at Low Isles, North Queensland. These show slight variation. Depth a little more than 3 in length to end of middle caudal rays in young, but 3 or less when larger. D. ix/10; rarely with 9 or 11 rays. Second dorsal spine a little over 2 in depth. L. lat. 41; rarely 40, sometimes 42 or even 43-44 tubes. Upper caudal lobe subequal to head. Colour bright silvery and without spots on body, but half-grown specimens sometimes with indistinct bars of darker scales. Tip of first dorsal black, some dark spots on dorsal rays.

Gerres splendens differs from *G. darnleyensis* (Ogilby)³¹ in having a larger eye, shorter pectoral, and larger scales. *Gerres vaigiensis* Quoy & Gaimard³² is said to have 11 dorsal and 8 anal rays. Queensland records of *Gerres oyena* (Forsk.) and *G. philippinus* Günther³³ may refer to *Gerres splendens*. From the former, as figured by Klunzinger,³⁴ the Queensland species appears to differ in having smaller teeth, ten longitudinal rows of scales below lateral line, and less even profile, whilst from Günther's species it is distinguished by having different scale-counts.

Genus PAROCHUSUS nov.

Orthotype, *Gerres profundus* Macleay.³⁵

Back elevated at origin of dorsal. Depth about one-half standard length. No filamentous dorsal spines. Pectoral reaching to above anal fin.

This genus also includes *Gerres abbreviatus* Bleeker,³⁶ the dental characters of which are discussed in the eighth volume of the Atlas Ichthyologique, and *Gerres cheverti* Alleyne & Macleay,³⁷ but these species have fewer lateral line scales than the genotype.

³¹ Ogilby, Mem. Qld. Mus. ii, Dec. 10, 1913, p. 86, pl. xxiii, as *Xystæma*. Type from Darnley Island in Queensland Museum (No. I. 13/1071).

³² Quoy & Gaimard, Voy. Uran. Physic., Zool., 1824, p. 292, Rawak & Waigiou.

³³ Günther, Cat. Fish. Brit. Mus. iv, 1862, p. 258. Philippine Is.

³⁴ Klunzinger, Fische Roth. Meeres i, 1884, p. 48, pl. v, fig. 1, as *G. oyena*.

³⁵ Macleay, Proc. Linn. Soc. N. S. Wales ii, June 1878, p. 350, pl. vii, fig. 3. Port Darwin.

³⁶ Bleeker, Verh. Bat. Gen. xxiii. 1850, Manoid., p. 11, and Nat. Tijdschr. Ned. Ind. i, 1850, p. 103. Batavia.

³⁷ Alleyne & Macleay, Proc. Linn. Soc. N. S. Wales i, Feb. 1877, p. 272, pl. vii, fig. 1. Cape Grenville, Queensland.

Family CHÆTODONTIDÆ.

Chætodon rainfordi McCulloch.

Chætodon rainfordi McCulloch, Rec. Austr. Mus. xiv, 1, Feb. 28, 1923, p. 4, pl. ii, fig. 1. Holbourne I., Queensland.

One specimen (*I. 4086*), Barnard Group, Great Barrier Reef, collected by W. E. J. Paradise.

Chætodon citrinellus nigripes De Vis.

Chætodon citrinellus Cuvier & Valenciennes, Hist. Nat. Poiss. vii, April 1831, p. 27. *Ex* Broussonet MS. Guam. *Id.* Cuvier, Règne Animal (Disciples' edition), 1836, pl. xxxix, fig. 1 (type).

Name in genitive case, without description, in Gmelin, Syst. Nat. (Linné), ed. 13, i, 3, 1789, p. 1269, footnote, *ex* Broussonet MS.

Chætodon nigripes De Vis, Proc. Linn. Soc. N. S. Wales ix, 3, Nov. 29, 1884, p. 453. Queensland.

Chætodon citrinellus nigripes Ahl, Archiv. Naturg. lxxxix, A, 5, 1923, p. 105.

One (*I. 3372*), coast of South Queensland.

Family PLATACIDÆ.

Genus ZABIDIUS nov.

Orthotype, *Platax novemaculeatus* McCulloch.³⁸

This new genus is easily distinguished from *Platax* Cuvier³⁹ by its nine dorsal spines. No notch between the spinous and soft dorsal fins. Soft dorsal and anal fins with rounded margins, not produced into falciform lobes.

Barnard⁴⁰ considered *Platax novemaculeatus* McCulloch as possibly belonging to the genus *Chatodipterus* Lacépède,⁴¹ but that genus has five dorsal spines, falciform fins, and a notch between the two dorsals. An attempt has been made by Fowler & Bean⁴² to unite McCulloch's species with *Platax pinnatus* (Linné) which has been called *P. teira* (Forskaal) by Australian authors, but I have examined Australian specimens identified as both species and regard *Zabidius novemaculeatus* (McCulloch) as quite distinct.

Family ENOPLOSIDÆ.

Enoplosus armatus (White).

Chætodon armatus White, Voy. N. S. Wales 1790, p. 254, fig. 1. [*Ex* Shaw MS. Botany Bay district, New South Wales.]

Chætodon constrictus Shaw, Zool. N. Holl., 1794, p. 17, pl. vi. [Botany Bay district, New South Wales.] Plate published 1793.

Enoplosus white Lacépède, Hist. Nat. Poiss. iv, 1802, p. 541. Based on White, 1790.

The "Zoology of *New Holland*," by George Shaw, illustrated by James Sowerby, and published in 1794, is a rare book on natural history. Only one

³⁸ McCulloch, Biol. Res. Endeavour iv, 4, Oct. 31, 1916, p. 188, pl. iv, fig. 1. Off Gloucester Head, Queensland. Holotype on deposit in Austr. Mus.

³⁹ Cuvier, Règne Animal, ed. 1, ii, "1817" = Dec. 1816, p. 334. Logotype, *Chætodon teira* Bloch (= *C. pinnatus* Linné).

⁴⁰ Barnard, Ann. S. Afr. Mus. xxi, 1927, p. 605.

⁴¹ Lacépède, Hist. Nat. Poiss. iv, 1802, p. 503. Haplotype, *Chætodon plumieri* Bloch.

⁴² Fowler & Bean, Bull. U. S. Nat. Mus. 100, viii, 1929, p. 21.

fish, *Chaetodon constrictus*, is described therein, but, as it has been overlooked by most systematists, attention is called to it here. The type-locality of this fish may be designated Botany Bay, New South Wales. The illustration of *Chaetodon constrictus* is dated "London Published Octr. 1, 1793, by I. Sowerby & Co, No. 2. Mead place Lambeth." The name is synonymous with *Chaetodon armatus* White and *Enoplosus white* Lacépède, from the same district; thus *Chaetodon constrictus* Shaw = *Enoplosus armatus* (White).

Family TEUTHIDÆ.

Genus NASO Lacépède, 1801.

Naso Lacépède, Hist. Nat. Poiss. iii, 1801, p. 104. Ex "*Naseus*" Commerson MS. Logotype, *N. fronticornis* Lacépède, selected by Jordan & Fowler, 1902.

Nason Anonymous, Allg. Lit. Zeit. 1802 (3), Jan. 1802, p. 22. Emendation for *Naso* Lacépède (*vide* Sherborn, Index Anim. ii, 17, 1928, p. 4255). Genotype, by present designation, *Naso fronticornis* Lacépède.

Naseus Cuvier, Règne Animal ed. 1, ii, "1817" = Dec. 1816, p. 331. Ex Commerson in Lacépède.

Sherborn quotes the anonymous introduction of the name *Nason* in January 1802 in a work which I have not seen but which is apparently a review of Lacépède's book. *Naso* Lacépède "1802," published in the tenth year of the French Republic, therefore evidently appeared in 1801.

Subgenus CYPHOMYCTER Fowler & Bean, 1929.

Cyphomycter Fowler & Bean, Bull. U. S. Nat. Mus. 100, vii, 1929, pp. 2, 264, and 273. Orthotype, *Naso tuberosus* Lacépède.

This may even be a valid genus, characterised by the convex hump on the snout.

***Naso (Cyphomycter) tuberosus* Lacépède.**

Naso tuberosus Lacépède, Hist. Nat. Poiss. iii, 1801, pp. 105 and 111, pl. vii, fig. 3. No locality [= Mauritius].

Acanthurus nasus Shaw, Gen. Zool., Pisc. iv. 2, 1803, p. 376, pl. li. Based on *Naso tuberosus* Lacépède from "Indian Seas" [*i.e.* Mauritius].

Naseus tuber Cuvier & Valenciennes, Hist. Nat. Poiss. x, 1835, p. 290. Based on *Naso tuberosus* Lacépède. Mauritius (Commerson & others).

Acanthurus tuberosus Ogilby, M.m. Qld. Mus. iii, 1915, p. 135 (Raine I., Q). *Id.* McCulloch, Austr. Mus. Mem. v, 1929, p. 275.

Naso (Cyphomycter) tuberosus Fowler & Bean, Bull. U. S. Nat. Mus. 100, viii, 1929, p. 273, fig. 19.

A 20-inch specimen (*I.* 4637) in the Queensland Museum from Yeppoon, Queensland, and presented by Mr. J. Stevenson, has been identified by Mr. T. C. Marshall as *Naso tuberosus*. A sketch of this fish, made by Mr. Marshall, shows that it is an old specimen with a hump developed below the anterior portion of the dorsal fin. The type-locality of this species is Mauritius and the Queensland form may be distinct, but I hesitate to give it the new name it probably deserves without fuller data at my disposal. An up-to-date work on the fishes of Mauritius is greatly to be desired so that comparison may be made between Mauritius, Indo-Pacific, and Australian forms. Although early writers regarded them as conspecific, the fishes of Eastern Australia and those of Mauritius are almost certainly distinct.

Family OPISTHOGNATHIDÆ.

Genus TANDYA nov.

Orthotype, *Opisthognathus maculatus* Alleyne & Macleay.⁴³

Maxillary extending well beyond hind margin of eye, its distal extremity truncate. Teeth of outer row in jaws larger than the others, except for an inner row of strong teeth in the lower jaw. Scales cycloid, of moderate size, in more than sixty and less than eighty transverse rows on the body. They extend over shoulders but leave naked patches on each side of spinous dorsal and above pectorals. Twelve dorsal spines, all simple. Caudal rounded.

Gill⁴⁴ made a new genus, *Gnathypops*, for [*Opisthognathus*] *maxillosus* Poey and *O. microps* Poey, "with moderately small scales and maxillars passing little beyond the eyes," and his name has been employed for the Australian species to be noted hereunder. The logotype of *Gnathypops* is the Cuban *Opisthognathus maxillosus* Poey,⁴⁵ as selected by Jordan & Gilbert⁴⁶ who redescribed the species. It differs from Australian forms in having eight dorsal spines and a shorter maxillary.

Besides the genotype, my new genus includes two other Australian species: *Opisthognathus darwiniensis* Macleay⁴⁷ from Port Darwin, and *O. inornatus* Ramsay & Ogilby⁴⁸ from Derby, Western Australia. These must now be known as *Tandya darwiniensis* and *Tandya inornata* respectively. The type of the latter species is in the Australian Museum (*I. 841*) and was figured by McCulloch.⁴⁹

The type of *Batrachus punctatulus* Ramsay⁵⁰ is also in the Australian Museum (*I. 1254*). This species, described from Torres Strait, is synonymous with *Tandya maculata*.

Family BLENNIIDÆ.

Several well-differentiated species have been described as belonging to *Blennius* Linné, but obviously have no close relationship with that European genus and would better be regarded as the orthotypes of new genera as follows:—

Blennius intermedius Ogilby⁵¹ may be called *Pictiblennius*; this new genus also includes *Blennius tasmanianus* Richardson.⁵²

⁴³ Alleyne & Macleay, Proc. Linn. Soc. N.S. Wales i, 3, Feb. 1877, p. 280, pl. ix, fig. 3. Palm Is., N. Queensland ("Chevert" Exped.). Type in Macleay Mus., University of Sydney.

⁴⁴ Gill, Proc. Acad. Nat. Sci. Philad. 1862, p. 241.

⁴⁵ Poey, Memorias ii, 1860, p. 286.

⁴⁶ Jordan & Gilbert, Bull. U. S. Nat. Mus. iii, 16, 1882, p. 942.

⁴⁷ Macleay, Proc. Linn. Soc. N. S. Wales ii, 4, June 1878, p. 355, pl. ix, fig. 3. Port Darwin, North Australia. Type in Macleay Museum, University of Sydney.

⁴⁸ Ramsay & Ogilby, Proc. Linn. Soc. N. S. Wales (2) ii, 3, Nov. 30, 1887, p. 561.

⁴⁹ McCulloch, Rec. West Austr. Mus. i, 1914, p. 215, pl. xxx.

⁵⁰ Ramsay, Proc. Linn. Soc. N. S. Wales viii, 1, June 19, 1883, p. 177. Name emended to *B. punctatulus* by authors.

⁵¹ Ogilby, Mem. Qld. Mus. iii, Jan. 28, 1915, p. 127. Darnley I., Queensland. Type in Qld. Mus.

⁵² Richardson, Trans. Zool. Soc. Lond. iii, 1849, p. 129. Port Arthur, Tasmania.

Blennius rhabdotrachelus Fowler & Ball⁵³ is typical of *Rhabdoblennius*.

Blennius snowi Fowler⁵⁴ is the orthotype of *Nixiblennius*.

Blennius tonganus Jordan & Seale⁵⁵ may be named *Dubiblennius*.

Blennius laticlavus Griffin⁵⁶ is the type of *Zeablennius*.

A well-marked group of New Zealand Blennies which includes *Tripterygion segmentatum* McCulloch & Phillipps⁵⁷ and *T. bucknilli* Griffin⁵⁸ may be named *Notoclinops*, with the former species as orthotype.

The Sabre-toothed Oyster Blenny of New South Wales which has been identified by authors⁵⁹ as *Petroscirtes variabilis* Cantor⁶⁰ is not that species, but requires a new subgeneric and specific name and may be called *Petroscirtes (Ostreoblennius) steadi*. Mr. D. G. Stead, after whom the species is named, recently collected a fine specimen in Port Jackson, New South Wales, the type-locality, with D. 31; A. 22; P. 14; V. 2; C. 11; depth 6.1 and head 3.9 in length to hypural; ventrals, pectorals, and caudal hyaline. It is proposed to figure and describe this species more fully at a later date.

Schmeltz⁶¹ noted *Petroscirtes cyprinoides* Cuv. & Val. from Bowen, but his record has been generally overlooked.

The Australian species of the subfamily Salariae have been admirably treated by McCulloch & McNeill⁶² but I find it necessary to propose two new generic names as the result of a study of numerous Queensland specimens.

Genus NEGOSCARTES nov.

Orthotype, *Salarias irroratus* Alleyne & Macleay.⁶³

Dorsal fins distinct. Large mandibular canines. Pectorals not nearly extending to anal fin. Ground-colour light in tone, overlain with dark reticulations. Seventeen dorsal and nineteen anal rays.

⁵³ Fowler & Ball, Proc. Acad. Nat. Sci. Philad. 1924 (1925), p. 272. Wake Island.

⁵⁴ Fowler, Mem. Bish. Mus. x, 1928, p. 431, fig. 71. Strong Island, Carolines.

⁵⁵ Jordan & Seale, Bull. U. S. Bur. Fish. xxv, 1906, p. 420. Tonga.

⁵⁶ Griffin, Trans. N. Z. Inst. lvi, 1926, p. 542, pl. xevi, fig. 1. Bay of Plenty, New Zealand. Type in Auckland Museum.

⁵⁷ McCulloch & Phillipps, Rec. Austr. Mus. xiv, Feb. 28, 1923, p. 20, pl. iv, fig. 3. Otago, New Zealand.

⁵⁸ Griffin, Trans. N. Z. Inst. lvi, 1926, p. 544, pl. xevii. Bay of Plenty, New Zealand. Type in Auckland Museum.

⁵⁹ Günther, Cat. Fish. Brit. Mus. iii, 1861, p. 234. Port Jackson specimen only. McCulloch, Austr. Zool. Handbook, i, 1922, p. 86.

⁶⁰ Cantor, Journ. Asiat. Soc. Bengal 1849, p. 1182; Cat. Malay. Fish. 1850, p. 200. Penang.

⁶¹ Schmeltz, Cat. Mus. Godef. vii, 1879, p. 48.

⁶² McCulloch & McNeill, Rec. Austr. Mus. xii, 1918, pp. 9-23, pls. iii-iv.

⁶³ Alleyne & Macleay, Proc. Linn. Soc. N. S. Wales i, 4, March 1877, p. 337, pl. xiii, fig. 4. Low Isles, Queensland. *Id.* McCulloch & McNeill, Rec. Austr. Mus. xii, 1918, p. 13, pl. iii, fig. 2 (Murray I., Q.).

Genus CRENALTICUS nov.

Orthotype, *Salarias crenulatus pallidus* Whitley.⁶⁴

Dorsal notched. Upper lip erenulated. Mandibular canines small or absent. Nineteen or more dorsal and anal rays.

In *Crenalticus pallidus* and *C. crenulatus* (Weber) the anal rays are produced and thickened in males. *Crenalticus meleagris* (Cuv. & Val.)⁶⁵ is apparently congeneric.

Both these new genera differ from *Salarias* Cuvier in having the dorsal fin excised between the spines and rays and in having canines usually present. *Rupiscartes* Swainson ("Alticus" Commerson in Lacépède) has more fin-rays than *Negoscartes* and differs from *Crenalticus* in having the upper lip entire.

Family GOBIIDÆ.

Gobiodon quinquestrigatus ceramensis (Bleeker).

Gobius quinquestrigatus Cuvier & Valenciennes, Hist. Nat. Poiss. xii, March 1837, p. 134. Tongatabou.

Gobius ceramensis Bleeker, Nat. Tijdschr. Ned. Ind. iii, 1852, p. 704. Waihai, Ceram.

Gobiodon ceramensis Günther, Journ. Mus. Godef. vi, 13 (Fische der Südsee vi), 1877, p. 182, pl. cix, fig. D.

One (*I. 4545*) from Bowen, Queensland, with very dark body and fins and light-brown head; another (*I. 4546*) from the same place is entirely chocolate brown. Collected and presented by E. H. Rainford.

Family TAENIOIDIDÆ.

Leme purpurascens De Vis.

Leme purpurascens De Vis, Proc. Linn. Soc. N. S. Wales ix, 3, Nov. 29, 1884, p. 698. Brisbane, Queensland. *Id.* McCulloch & Ogilby, Rec. Austr. Mus. xii, 1919, p. 206, pl. xxxi, fig. 3.

Taenioides purpurascens Chabanaud, Bull. Soc. Zool. France li, 1927, p. 415.

One specimen (*I. 4638*) measuring 113 mm. in total length, from Five-mile Rocks, Yeronga, Brisbane River. Presented by R. H. Walker.

Family ELEOTRIDÆ.

Philypnodon grandiceps (Kreffft).

Eleotris grandiceps Krefft, Proc. Zool. Soc. Lond., July 7, 1864, p. 183. Upper Hawkesbury River, N. S. Wales.

Philypnodon grandiceps Waite, Rec. Austr. Mus. v, 1904, p. 285, pl. xxxvi, fig. 2 (references and synonymy).

Four (*I. 4548*) from Bellevue Station, about eighty miles up the Brisbane River. Presented by Mrs. Lumley Hill.

⁶⁴ Whitley, Austr. Zool. iv, 4, April 1926, p. 235. North-west Islet, Queensland.

⁶⁵ Cuvier & Valenciennes, Hist. Nat. Poiss. xi, July 1836, p. 332, as *Salarias*; "rapporté par Péron de la terre de Van-Diemen." Probably from North-Western Australia, as no *Salarias* occurs in Tasmania and Péron did not visit the Great Barrier Reef.

Genus CALLELEOTRIS Gill, 1863.

Subgenus GERGOBIUS nov.

Orthotype, *Eleotris tæniura* Macleay.

Distinguished from *Calleleotris* by the fewer dorsal rays (13 instead of 19) and the ornate colouration.

Calleleotris (Gergobius) tæniura (Macleay).

Eleotris tæniura Macleay, Proc. Linn. Soc. N. S. Wales, v, 4, May 20, 1881, p. 624. Low Island, Queensland.

This is the Queensland species which has been called *Valenciænnea longipinnis* by authors. *Valenciænnea* Bleeker is preoccupied and the figure of *Eleotris longipinnis* Lay & Bennett, described from the Loo Choo Islands, does not agree with Australian specimens so well as Macleay's account of *E. tæniura*, a specimen of which I have collected at the type-locality. For references to literature concerned see McCulloch's Check-List.⁶⁶

Family SYNANCEJIDÆ.

Genus SYNANCEJA Bloch & Schneider, 1801.

- Synanceja* Bloch & Schneider, Syst. Ichth. 1801, p. 194; spelt *Synanceia* on p. xxxvii. Logotype, *Scorpaena horrida* Linné, designated by Jordan Gen. Fish. i, 1919, p. 58.
- Synanchia* Swainson, Nat. Hist. Classif. Fish. Amphib. Rept. ii, July 1839, pp. 180 and 267 (not p. 268 — *Erosa* Swainson): misprinted *Synachia* on p. 57. *Errore pro Synanceja*.
- Buffichthys* Swainson, Nat. Hist. Classif. Fish. Amphib. Rept. ii, July 1839, pp. 181 and 268. Logotype, *B. horrida* Swainson (= *Scorpaena horrida* Linné), selected by Swain, Proc. Acad. Nat. Sci. Philad. 1882 (1883), p. 277. Spelt *Buffichthys* by Day, Fish. India 1875, p. 162.
- Synancidium* Müller, Archiv. Naturges (Wiegmann) ix, 1, 1843, p. 302 and Abhandl. K. Akad. Wiss. Berlin 1844 (1846), p. 163. *Genus calebs* ("Synanceia mit Vomerzähnen"). Logotype, *Scorpaena horrida* Linné, designated by Jordan, Gen. Fish. ii, 1919, pp. 169 and 201. Spelt *Synancydium* by Agassiz and by Seudder.
- Synancia* Agassiz, Nomencl. Zool. 1846, Index Univ., p. 358. *Emend. pro Synanceja*. Logotype, *Scorpaena horrida* Linné, by present designation. *Id.* Swain, Proc. Acad. Nat. Sci. Philad. 1882 (1883), pp. 277 and 304. *Id.* Regan, Ann. Mag. Nat. Hist. (8) xi, 1913, pp. 171 and 176.

A difficulty which continually confronts modern systematists is the fixation of genotypes for those genera which were originally proposed for more than one species and in which there is neither orthotype nor tautotype. The practice of using the first species or one chosen as the main species or "example" by the "first reviser," without a formal type-designation having been made, is discarded as impracticable. The choice of logotypes for fish genera has been made in scattered places in ichthyological literature by various authors, and, whilst an endeavour is made here to quote the earliest type-designations for every genus as far as possible, it is realised that much more

⁶⁶ McCulloch, Austr. Mus. Mem. v, 1929, p. 367.

bibliographical work will have to be done by ichthyologists and their associates generally before finality will be reached concerning the logotypes of some of the earlier genera of fishes.

The case of *Synanceja* illustrates the difficulty which may be met with when trying to trace the earliest genotype selection. This name was originally proposed by Bloch & Schneider for the following species with "Corpus nudum, caput magnum, eavernosum":—

1. *horrida*, p. 194. *Ex Scorpaena horrida* Linné. Bengal & Japan.
2. *uranoscopa*, p. 195. New species. Tranquebar.
3. *verrucosa*, p. 195. New species, figured on pl. 45. India.
4. *didactyla*, p. 195. *Ex Scorpaena didactyla* Pallas. Indian Sea.
5. *rubicunda*, p. 196. *Ex Trigla rubicunda* Hornstedt. Amboina.
6. *papillosus*, p. 196. *Ex Scorpaena cottoides* Forster MS. New Zealand.

and "species non definiendæ" p. 197. *Ex Gron. Mus.* 1, 46, n. 103; Zoophyl. p. 87, n. 290 [apparently *Scorpaena scrofa* Linné, 1758.]

One of these species must, of course, be the genotype, and as there is no tantotype it becomes necessary to search masses of ichthyological literature to discover who first formally named a logotype. The most fruitful sources of type-designations failed in this case: the French Dictionaries of Natural History and all the available works of Cuvier, Bleeker, and Kaup. Bleeker⁶⁷ regarded *Synanceia*, founded on *S. horrida*, and *Synancidium*, founded on *S. verrucosa*, as synonymous but designated no types for them. Gill⁶⁸ gave a masterly exposition of the taxonomic tangles surrounding *Synanceja* but he also named no genotype for it. A little earlier, Jordan and Starks⁶⁹ had approached the same problem from another angle, but their passing reference to the genus in question, "*Synanceia (horrida) = Synancidium = Bufichthys*," cannot, in my opinion, be construed as a type-designation.

The first selection of the logotype of *Synanceja* was apparently made by Jordan,⁷⁰ who chose *Scorpaena horrida* Linné, "by common consent." He later⁷¹ regarded *S. verrucosa* Bloch & Schneider as the type of *Synanceja* "as first restricted by Müller, 1843," but Müller made no type-designation. On the same page, Jordan stated "*S. horrida* is type of *Synancidium* Müller," and, as this is the first logotype-designation for Müller's genus which I have been able to discover, *Synancidium* becomes an absolute synonym of *Synanceja*; Jordan also came to that conclusion on p. 216 of the work cited.

I regard *Synanchia* Swainson as a mis-spelling of *Synanceja*, and follow Bibron⁷² in considering it a synonym of *Synanceja*. Another mis-spelling, or

⁶⁷ Bleeker, *Natuurk. Verhand. Holl. Maatsch. Wetensch.* (3) ii, 3, 1874.

⁶⁸ Gill, *Proc. U. S. Nat. Mus.* xxviii, 1905, pp. 221-224.

⁶⁹ Jordan & Starks, *Proc. U. S. Nat. Mus.* xxvii, 1904, p. 156.

⁷⁰ Jordan, *Gen. Fish.* i, 1917, p. 58.

⁷¹ Jordan, *Gen. Fish.* ii, 1919, p. 169.

⁷² Bibron, *Dict. d'Hist. Nat.* xii, 1861, p. 125.

emendation, is *Synancia* of Agassiz 1846, Swain 1883, and Regan 1913; to avoid confusion, I name *Scorpaena horrida* Linné the logotype of each of these. Another absolute synonym of *Synanceja* is *Bufichthys* Swainson, for which Swain selected the same logotype.

Subgenus NOFUA nov.

Bleeker, in his "Revision des Espèces Insulindiennes de la famille des Synaëoïdes," regarded *Synanceja horrida* and *S. verrucosa* as congeneric because a new species from the Moluccas which he called *Synanceia platyrhynchus*⁷³ was intermediate in structural characters between the two species. However, I regard *S. verrucosa* as typical of *Synanceichthys* Bleeker,⁷⁴ and propose the new name *Nofua* as a subgenus of *Synanceja* with *S. platyrhynchus* Bleeker as orthotype. The key characters given by Bleeker will serve to define it.

Synanceja horrida (Linné).

- "*Ikan Swangi Touwa*" Renard, Poiss. Mol. i, 1718, pl. xxxix, fig. 155 (*vide* Gronow).
 "*Ikan Sowangi Bezâr*" &c. Valentyn, Amboina iii, 1726, p. 399, fig. 170. Amboina.
 "*Perca alepidota: dorso monopterygio.*" &c., Gronow, Zoophylac. Gronov., 1763, p. 88, No. 292, pls. xi, xii, and xiii, fig. 1. Bengal.
Scorpaena horrida Linné, Syst. Nat. ed. 12, 1766, p. 453, No. 3. Based on Gronow and Valentyn. Eastern India [=Bengal].
Scorpaena alepidota Bloch, Nat. aush. Fische iii, 1787, p. 15 (*vide* Bleeker, 1874), pl. clxxxiii (*horrida* on plate). East Indies.
Scorpaena horrida minor Meuschen, Ind. Zoophyl. Gronov., 1781, No. 292. [Bengal.]
Scorpaena horrida Bonnaterre, Tabl. Encycl. Meth. Ichth., 1788, p. 69, pl. lxxxviii, fig. 369, copied from Bloch. (East Indies.) *Id.* Gmelin, Syst. Nat. (Linné), ed. 13, i, 3, 1789, p. 1217 (India).
Synanceja horrida Bloch & Schneider, Syst. Ichth. 1801, p. 194 (Bengal).
Scorpaena horrida Lacépède, Hist. Nat. Poiss. ii, 1802, pl. xvii, fig. 2; *ibid.* iii, 1802, pp. 258 and 261.
 "*La Scorpène horrible*" Bose, Nouv. Dict. d'Hist. Nat. xxx, 1819, p. 411, pl. P. 19, fig. 5 (Mer des Indes).
Synanceia horrida Cloquet, Dict. Sci. Nat. li, 1827, p. 441. *Id.* Cuvier & Valenciennes, Hist. Nat. Poiss. iv, Nov. 1829, p. 440 (Java).
Synanceia grossa Gray, Illustr. Indian Zool. i, March 1830, pl. xvii. Singapore. Also spelt *Synanacca grossa*; *vide* Sherborn, Index Anim.
Bufichthys horrida and *grossa* Swainson, Nat. Hist. Classif. Fish. Amph. Rept. ii, July 1839, p. 268. Based on Lacépède, 1802, and Gray, 1830.
Synancidium horridum Günther, Cat. Fish. Brit. Mus. ii, 1860, p. 144 (not Australian specimens). *Id.* Day, Fish. India i, Aug. 1875, p. 162, pl. xxxix, fig. 3.
Scorpaena monstrosa Gray, Cat. Fish. coll. Gronow Brit. Mus., 1854, p. 117. *Ex* Gronow MS. Equivalent to Gronow, 1763.

Valentyn gave early pictures of stonefishes, as the species of this genus are called, and his "*Ikan Sowangi Bezâr*" obviously represents a specimen of

⁷³ Bleeker, Natuurk. Verhand. Holl. Maatsch. Wetensch. (3) ii, 3, 1874, pp. 11 and 14, pl. i, fig. 2.

⁷⁴ Bleeker, Ned. Tijdschr. Dierk. i, 1863, p. 234. Type, *Synanceja verrucosa* Bloch & Schneider. Not seen; quoted from Weber & Beaufort and from Jordan.

Synanceja horrida in which the contiguous bony bosses over the eyes are depicted as star-like objects. Cuvier & Valenciennes regard this figure as representing their *Scorpena diabolus*. Valentyn's fig. 342 is a conventional representation of a stonefish, regarded as *Synanceichthys verrucosus*, which may be mentioned in passing on account of its historical interest.

Synanceja horrida is an Indian species which has been wrongly recorded from Australia. The Australian Stonefish differs from descriptions and figures of the true *S. horrida* in having the nuchal or supratemporal crests larger, the preorbital stay of different architecture, and the anal spines very small and not pungent. There are more wart-like outgrowths on the body and the lower pectoral rays are simple in the Australian species, which has been named *Synanceia trachynis* by Richardson.

***Synanceja trachynis* Richardson.**

Synanceia trachynis Richardson, Ann. Mag. Nat. Hist. ix, July 1, 1842, p. 385. Port Essington (Gilbert). Type in British Museum. *Id.* Bleeker, Verhand. Akad. Amsterd. ii, 1855, p. 8.

Synancidium horridum Günther, Cat. Fish. Brit. Mus. ii, 1860, p. 144 (Australian specimens only). *Id.* Klunzinger, Sitzb. Akad. Wiss. Wien lxxx, 1, 1879, p. 367 (Port Darwin). *Id.* Saville-Kent, Great Barrier Reef 1893, pp. 286 and 369, pl. xlvii, fig. 1 (Cooktown, Q.).

Synanceja horrida McCulloch, Austr. Mus. Mag. ii, 5, 1925, p. 159, figs. (Thursday I., &c., Queensland). *Id.* Kesteven, Rec. Austr. Mus. xv. 3, 1926, p. 225, figs. 10-15 (skull). *Id.* Tandy, Nat. Hist. Mag. ii, 2, 1929, p. 89, fig. 11 (Low Is., Q.). *Id.* Whitley and Boardman, Austr. Mus. Mag. iii, 1929, p. 369 and figs.

"*Cyaneeihorrida*" Stevens, Amat. Fish. Assoc. Qld., Ann. Rept. 1925-26 (1926), p. 5. Error.

Cynanceja (sic) *horrida* Paradise, Quart. Rev. Health Inspect. Assoc. Australia iv, 3, July, 1926, p. 45, fig. (Torres Strait).

Apart from specimens met with by the British Great Barrier Reef Expedition, with which I hope to deal elsewhere at a later date, I have examined specimens of *Synanceja trachynis* in the Australian Museum from the following localities:—Moreton Bay, Boyne Island, Port Curtis, Endeavour River, Thursday Island, and Torres Strait, Queensland; Port Darwin, North Australia; Port Hedland, Western Australia, and some extralimital forms.

The species has been wrongly recorded from Sydney by Castelnau⁷⁵ as *Synancidium horridum*, and Waite⁷⁶ has noted it from Houtmans Abrolhos, Western Australia.

Poisonous Properties of the Australian Stonefish.—General remarks on the poisonous properties of the Australian Stonefishes, *Synanceja trachynis* and *Synanceichthys verrucosus*, have been made by Saville-Kent and other writers, but the most recent account is by Duhig & Jones⁷⁷ who discuss in detail the venom, dorsal spines, variability in poison-saes, and the effects of the poison. The specimens used by these authors were caught in Moreton Bay, South

⁷⁵ Castelnau, Proc. Linn. Soc. N. S. Wales iii, 1879, p. 351.

⁷⁶ Waite, Rec. Austr. Mus. vi, 1905, p. 74.

⁷⁷ Duhig & Jones, Mem. Qld. Mus. ix, 2, 1928, pp. 136-148, figs 1-8; Austr. Journ. Exp. Biol. Med. Sci. v, 2, 1928, pp. 173-179; Nature, Sept. 22, 1928, p. 454.

Queensland. In "Stone fishes and the Art of Camouflage," McCulloch⁷⁸ wrote about *Synanceja trachynis*, but his figure on p. 159 shows the dissected venom apparatus of *Synanceichthys verrucosus*. Other notes on stonefishes, besides those already quoted, have been given by Banfield⁷⁹ and Cleland.⁸⁰

Synanceja trachynis is said to reach a length of nearly 2 feet, but the average size of my specimens is about 11 inches.

Family PLATYCEPHALIDÆ.

Subfamily INEGOCIINÆ.

Genus SUGGRUNDUS nov.

Insidiator Jordan & Snyder, Proc. U. S. Nat. Mus. xxiii, Dec. 10, 1900, p. 368. Orthotype, [*Platycephalus*] *rudis* Günther. *Id.* Jordan & Thompson, Proc. U. S. Nat. Mus. xlii, 1913, p. 70. *Id.* McCulloch, Biol. Res. Endeavour ii, 1914, p. 137. *Id.* Jordan & Hubbs, Mem. Carneg. Mus. x, 1925, p. 286. *Id.* McCulloch, Austr. Mus. Mem. v, 1929, p. 402.

Thysanophrys Jordan & Richardson, Proc. U. S. Nat. Mus. xxxiii, Feb. 28, 1908, p. 630; Check-list Fish. Philip Archip. 1910, p. 53. Not *Thysanophrys* Ogilby, *s. str.*

The generic name *Insidiator* Jordan & Snyder is perhaps preoccupied by *Insidiator* Amyot,⁸¹ a non-binomial genus of insects, but is certainly preoccupied by *Insidiator* Oken,⁸² a genus of fishes equivalent to *Epibulus* Cuvier,⁸³ and may be renamed *Suggrundus*, with *Platycephalus rudis* Günther⁸⁴ as orthotype. This species is said to be equivalent to *P. meerderrootii* Bleeker⁸⁵ and should thus be known as *Suggrundus meerderrootii*.

Grammoplites Fowler⁸⁶ may be regarded as distinct from *Suggrundus* as the lateral line is armed throughout with spines, whereas in the latter genus there are spines only on the anterior portion.

In the past, a large array of species has been included under "*Insidiator*" or confused with the distinct *Thysanophrys* Ogilby,⁸⁷ but work on these fishes has been rendered much easier by Jordan & Hubbs's excellent key to the

⁷⁸ McCulloch, Austr. Mus. Mag. ii, 5, 1925, pp. 159-162, 3 figs.

⁷⁹ Banfield, The Confessions of a Beacheomber, 1908, p. 143 and plate.

⁸⁰ Cleland, Austr. Med. Gazette, Sept. 1912, pp. 3-30.

⁸¹ Amyot, Ann. Soc. Ent. France iii, 4, 1846, p. 481, non-binomial (*vide* Sherborn, Index Animalium).

⁸² Oken, Allgemeiner Naturg., Univ. Register, 1842, p. 199. Based on *Epibulus* Oken [= Cuvier]. Tautotype, *Sparus insidiator* Pallas. See also Cloquet's articles on "Filou" and "Insidiator" in Dict. Sci. Nat.

⁸³ Cuvier, Règne Anim. ed. 1, ii, "1817" ≡ Dec. 1816, p. 264.

⁸⁴ Günther, Rept. Voy. Challenger, Zool. i, 6, 1880, p. 66, pl. xxix, fig. B. Japan.

⁸⁵ Bleeker, Acta Soc. Sci. Indo-Nederl. viii, 1860, p. 80, pl. i, fig. 3. Nagasaki, Japan (*vide* Jordan & Richardson, Proc. U. S. Nat. Mus. xxxiii, 1908, p. 635).

⁸⁶ Fowler, Journ. Acad. Nat. Sci. Philad. (2) xii, 4, June 10, 1904, p. 550. Orthotype, *Cottus scaber* Linné. "Lateral line armed with spines."

⁸⁷ Ogilby, Proc. Linn. Soc. N. S. Wales xxiii, 1, 1898, p. 40. Orthotype, *Platycephalus cirronasus* Richardson.

Japanese genera of *Platycephalidae*. Comparison of this with the key to Japanese "*Thysanophrys*" given by Jordan & Richardson years before shows that characters regarded as specific in 1908 prove on closer analysis and elaboration to be generic in 1925.

Subgenus *REPOTRUDIS* nov.

Orthotype, *Platycephalus macracanthus* Bleeker.⁸⁸

Interorbital space less than vertical diameter of eye. Upper preopercular spine enlarged, about equal in length to longitudinal diameter of eye. Anterior third of lateral line with distinct upstanding spines.

Family *OSTRACIIDÆ*.

Genus *TRIORUS* Jordan & Hubbs, 1925.

Triorus Jordan & Hubbs, Mem. Carneg. Mus. x, 2, June 27, 1925, pp. 96 and 256. Orthotype, *Lactophrys tritropis* Snyder.

The nearest allies of this genus are the *Ostraciidae* with three-angled carapaces. *Tetrosomus* Swainson⁸⁹ has only one spine on the back. *Lactophrys* and *Rhinesomus* Swainson⁹⁰ have no spines on back and more than nine dorsal and anal rays.

Triorus reipublicæ (Ogilby).

(Plate I, fig. 2.)

Ostracion concatenatus Bleeker, Versl. Med. Kon. Akad. v. Wet. Afd. Natuork xv, 1863, p. 443, and Nederl. Tijdschr. Dierkunde ii, 1865, p. 68 (Port Jackson). *Id.* Günther, Cat. Fish. Brit. Mus. viii, 1870, p. 259 (N. S. Wales specimen only). Not *Ostracion concatenatus* Bloch, Nat. aush. Fische i, 1785, p. 101, pl. cxxxii, a West Indian species without spines on carapace.

Lactophrys concatenatus Waite, Mem. N. S. Wales Nat. Club. ii, 1904, p. 57 (N. S. Wales—listed only).

Lactophrys reipublicæ Ogilby, Mem. Qld. Mus. ii, Dec. 10, 1913, p. 92. New name for *Ostracion concatenatus* of Australian authors (not Bloch).

Lactophrys stellifer Jordan & Thompson, Mem. Carneg. Mus. vi, 1914, p. 268. Note that Sydney specimen differs from *L. tritropis* Snyder from Japan. *Id.* Jordan, Tanaka, & Snyder, Journ. Coll. Sci. Imp. Univ. Tokyo xxxiii, 1913, p. 431 (Sydney and Lord Howe Is.). *Id.* McCulloch, Austr. Zool. ii, 1922, p. 127 (not fig.). Not *Ostracion stellifer* Bloch & Schneider, Syst. Ichth. 1801, p. 499, pl. xviii, which has four strong spines on lateral ridge; described from "America" but probably from East Indies or Japan.

Triorus stellifer McCulloch, Austr. Mus. Mem. v, 1929, p. 423.

D. 9; A. 9; P. i/10; 8 branched rays in caudal.

Eye (12 mm.) 1.6 in snout (19) or 1.2 in interorbital (15). Opening of carapace around mouth (9) 2.7, gill-slit (6.5) 3.8, pectoral (15) 1.7 in head (25) which is 2.8 in length of carapace (71), measured from tip of snout to anterior

⁸⁸ Bleeker, Versl. Akad. Amsterdam (2) iii, 1869, p. 253. Amboina.

⁸⁹ Swainson, Nat. Hist. Classif. Fish. Amphib. Rept. ii, July, 1839, pp. 194 and 323. Name amended to *Tetrosomus* by Agassiz (Nomencl. Zool., Index Univ., 1846) who notes that there is a genus of microbes named *Tetrosomu* Corda, Alman. Carlsb., 1839.

⁹⁰ Swainson, Nat. Hist. Classif. Fish. Amphib. Rept. ii, July 1839, pp. 194 and 324.

edge of lateral concavity before the tail. Depth, excluding spines (37.5), 2.7 in total length (103) and little less than width (40). Anal or dorsal base (6) 4.1, caudal base (7) 3.5, height of dorsal or anal (12) 2.08 in head.

Profile steep, emarginate; snout pointed. Interorbital markedly concave. A small spine over anterior third of eye. Gill-opening more than half eye-diameter and situated below posterior half of eye. Carapace with more rugosities on head than elsewhere. Opening of carapace surrounding mouth a little less than eye diameter. Lips fleshy. Ten long, separate, blunt teeth in upper jaw, some of them movable; eight similar teeth in lower jaw. Nostrils in a groove before eye.

Carapace three-angled. A convex dorsal ridge extending from interorbital to dorsal fin and bearing two strong spines. Lateral ridges almost horizontal, not projecting strongly downwards, extending from sides of head to rear of carapace and each bearing a prominent spine below and before the first dorsal spine and preceded by a small spine; another small spine below and before the origin of the dorsal fin but no spine on lateral ridge below eye. Ventral surface convex anteriorly, flattened or slightly concave posteriorly. Carapace closed above and below tail; dorsally it ends as a rounded process but ventrally it is broadly truncate. Ten scutes between gill-opening and tail, about five between eye and snout, seven along dorsal ridge, nine down sides of body, and seventeen along median line of belly, those before anal space rudimentary. Caudal peduncle as long as snout.

Dorsal high, its margin rounded, with the first ray simple and the rest branched; anal similar to dorsal. Pectoral with upper rays longest and with a tubercle-like spine. Caudal rounded, a simple ray above and below.

Colour, after long preservation, uniform brown, lighter on soft parts, spines and junction lines of scutes. Eye bluish. Teeth dark brown.

Described and figured from a specimen which I designate lectotype of *Lactophrys reipublicae* Ogilby. It is 85 mm. in length from snout to base of caudal and comes from Moreton Bay, Queensland. Registered No. *I. 1064* in the Queensland Museum.

I have examined thirty-six specimens from the collections of the Queensland and Australian Museums from various localities, and regard them as referable to the same species though further work on larger series might show racial or varietal differences.

Compared with the lectotype, young specimens from Moreton Bay (Qld. Mus. *I. 325*; Austr. Mus. *LA. 4592*) have two strong spines over eye, back more elevated, and spines on lateral ridges more pronounced. An anterior spine, on the lateral ridge, below the eye, is evidently lost with age. Fourteen to fifteen median ventral scutes in young specimens. The body scutes may also show growth-lines radiating from their centres to their corners and giving them a starry appearance. The largest Australian specimen of this species.

I have seen is No. *I. 326* in the Queensland Museum. It has a carapace of 108 mm. and the whole fish must have been over 6 inches long; unfortunately the tail is broken. It has sixteen median ventral scutes and smooth, starry sides, and came from Moreton Bay.

A specimen labelled Papua (Qld. Mus. *I. 327*) is about the same size as the type, having a carapace of 71 mm., but has rougher scutes and no supra-orbital spines; otherwise it is identical.

Large series of young specimens from New South Wales in the Australian Museum have characters similar to those of the Moreton Bay form but are slightly more elevated dorsally, more rugose on the sides, and some have milky-blue spots on caudal peduncle and posterior half of body. Spine on each lateral ridge below eye present in all but the largest specimens. There is also a median gibbosity before the dorsal fin and behind the spines which is much more pronounced than in any Queensland specimen examined. A large specimen from Port Jackson (Austr. Mus. *IA. 4591*: carapace 105 mm., standard length 123) differs from Ogilby's type in being much more rugose all over and has slightly smaller eye, lower fins, and more convex post-anal margin of carapace. In very small specimens, notably in a series from Bondi, New South Wales (Austr. Mus. *A. 5537-5542*), the belly is rounded and the lateral ridges point downwards and outwards.

From Lord Howe Island, the Australian Museum has two specimens. One (*I. 7862*) with a carapace of 56 mm. is similar to New South Wales specimens, but the other (*I. 4360*) is of interest because of its large size. This specimen has a carapace of 152 mm. and a total length of nearly 9 inches. All the spines on the ridges are obsolete and the depth is about half the length of the carapace. Width 70 mm., orbit 20, interorbital 24.

Triorus reipublicæ (Ogilby) resembles *T. tritropis* Snyder⁹¹ but differs in having much fewer rugosities, which are chiefly restricted to the head. The snout of *T. reipublicæ* is more acutely pointed with the profile straight rather than convex and there is generally no spine on lateral ridge below eye. The opening of the carapace surrounding the mouth and the size of the gill-slits also appear to differ from those shown in Snyder's figure.

Triorus reipublicæ is probably pelagic, at least when young. One specimen was found in the stomach of a snapper trawled off Port Stephens, New South Wales. The species ranges from New Guinea and Queensland to New South Wales and Lord Howe Island.

***Triorus pyxis* sp. nov.**

In addition to the series of *T. reipublicæ* (Ogilby), in the Australian Museum, there are two specimens of a new species from Western Australia.

⁹¹ Snyder, Proc. U. S. Nat. Mus. xl, May 26, 1911, p. 535, as *Lactophrys*. Misaki, Japan. Type later figured in vol. xlii, 1912, p. 424, pl. fiv, fig. 1.

This novelty is closely allied to the eastern Australian form but differs as follows:—

No spines over orbit. Groove for nostrils more excavated. Junction of scutes not so straight and even as in *T. reipublicæ* but each scute margined with close-set grooves at right angles to its edge, which is correspondingly notched. Rugosities not so pronounced, more in the form of rounded, reticulating irregularities of surface. Lateral scutes immediately before the caudal peduncle forming a sculptured shelf which is more evident in *T. pyxis* than in *T. reipublicæ*, to which it is similar, though scarcely identical, in other details. Five scutes on dorsal ridge. Nine dorsal and anal rays.

Holotype (*LA. 394*) and paratype (*LA. 395*) in Australian Museum, from Cottesloe, near Perth, Western Australia.

Genus ACANTHOSTRACION Bleeker, 1866.

Acanthostracion pentacanthus (Bleeker).

Ostracion pentacanthus Bleeker, Act. Soc. Sci. Ind. Neerl. ii, 1857, p. 98. Amboina.

Ostracion (Acanthostracion) fornasini Bleeker, Atlas Ichth. v, 1865, p. 34, pl. cciii, fig. 4. Amboina.
Not *O. fornasini* Bianconi from Mozambique.

One specimen (*Qld. Mus. I. 1575*) from Southport, South Queensland; presented by V. J. Hargraves. Length of carapace 84 mm. New record for Australia. This tropical species has been recorded from New Zealand as *Ostracion fornasini*, but it is doubtful whether it occurs so far south.

The species called *Ostracion (Acanthostracion) fornasini* in Bleeker's Atlas Ichthyologique is probably not *O. fornasini* Bianconi⁹² from Mozambique, but is *O. pentacanthus* Bleeker from Amboina. Bianconi's original description is not available in Australia, but Barnard⁹³ states that *Lactoria fuscomaculata* von Bonde is a synonym. Von Bonde's illustration⁹⁴ shows a species with thicker mouth region, more depressed dorsal spine, less branched caudal rays, and smaller anal spines than Bleeker's figure represents. The Queensland Museum specimen, compared with von Bonde's figure, differs in having the head a little over 3 in length of carapace, scutes of chin, breast, and posterior part of sides particularly rugose, no dark band from eye to pectoral, and markings on body tending to form wavy lines.

Günther⁹⁵ figured an allied form with much stronger preorbital and anal spines than the Indo-Australian species possesses. His figure apparently represents a distinct Hawaiian species, named *Lactoria galeodon* by Jenkins.⁹⁶

⁹² Bianconi, Nouv. Ann. Sci. Nat. [Bologna] (2) v, March 1846, p. 115; *vide* Sherborn, Index Animalium ii, 10, 1926, p. 2490.

⁹³ Barnard, Ann. S. Afr. Mus. xxi, 2, 1927, p. 963.

⁹⁴ Von Bonde, Rept. Marine Survey S. Afr. iii, 1924, p. 38, pl. ix, fig. 1, as *L. fuscolineata*.

⁹⁵ Günther, Journ. Mus. Godeff. vi, 17 (Fische der Südsee ix), 1910, p. 457, pl. clxx, figs. B-B'.

⁹⁶ Jenkins, Bull. U. S. Fish. Comm. xxii, 1902 (Sept. 23, 1903), p. 487, fig. 34. Honolulu.

Family TETRAODONTIDÆ.

Spheroides (Lagocephalus) inermis Temminck & Schlegel).

Tetraodon inermis Temminck & Schlegel, Faun. Japon., Poiss., 1850, p. 278, pl. cxxii, fig. 2. Simabara Bay, Japan.

An 18-inch specimen (*I.* 4657) from Woody Point, Moreton Bay. Presented by G. Thompson.

Genus TORQUIGENER nov.

Orthotype, *Spheroides tuberculiferus* Ogilby.

A row of papillæ before the gill-openings. Chin prominent, deep, plicated. Nostrils in the form of a rounded papilla with two perforations. Nine or ten dorsal rays. Dorsal and anal fins elevated, acute. Caudal fin rounded but with the outer rays slightly produced. Lateral line system well developed. A fold on each side of body. Skin of back, sides, and belly with spaced spines.

Torquigener tuberculiferus (Ogilby).

Spheroides tuberculiferus Ogilby, Mem. Qld. Mus. i, Nov. 27, 1912, p. 61, pl. xiv, fig. 1. Moreton Bay and Wide Bay, Q. *Id.* McCulloch, Biol. Res. Endeavour iii, 1915, p. 168 (not figure).

Three specimens (*I.* 348) from Moreton Bay.

Torquigener tuberculiferus vicinus subsp. nov.

Spheroides tuberculiferus McCulloch, Biol. Res. Endeavour iii, 3, April 21, 1915, p. 168, pl. xxxiv, fig. 1. Western Australian specimens only.

After comparing Western Australian specimens with typical Queensland forms, I regard the Australian Museum specimen figured by McCulloch as the type of a new subspecies. It is closely allied to *T. tuberculiferus* but has the spines of the ventral surface not extending so far forward on to the chin, nostrils in higher papillæ, and smaller spots on cheeks.

The following new names have been proposed in this paper:—

Subfamily: *Paradicichthyina*. Genera or subgenera: *Crenalticus*, *Dubi-blennius*, *Gergobius*, *Lovamia*, *Negoscartes*, *Nixiblennius*, *Nofua*, *Notoclinops*, *Ostreoblennius*, *Paradicichthys*, *Parochusus*, *Pictiblennius*, *Pranesus*, *Repotrudis*, *Rhabdoblennius*, *Suggrundus*, *Tandya*, *Torquigener*, *Yarica*, *Zabidius*, and *Zeablennius*. Species: *Paradicichthys venenatus*, *Petroscirtes (Ostreoblennius) steadyi*, *Pranesus ogilbyi*, and *Triorus pyxis*. Subspecies: *Torquigener tuberculiferus vicinus*.